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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/786,665

02/25/2004

Mario Rabinowitz

2979

41857

7590

10/18/2004

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EXAMINER

TRA, TUYEN Q

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,665	RABINOWITZ ET AL.	
	Examiner	Art Unit	
	Tuyen Q Tra	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-23 is/are rejected.
- 7) ☒ Claim(s) 11 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings filed on 02/25/2004 are considered formal by examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 4, 5, 7, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Engler et al. (U.S. Pat. 6,521,145 B1).

a) With respect to claims 1 and 5, Engler et al. discloses a reflective particle display film and method of manufacture in Figure 1B, 1C, 4A, 4B and 4C comprising of an array of rotatable mirrored balls (reflective particle 418 function as a mirror) embedded in the sheet; the array disposed behind an optically transmissive surface (item 404, the electrode layers 404 is preferably transparent); and each of the mirrored balls (418) encapsulated in a surrounding medium of an optically transmissive fluid (item 416).

b) With respect to claims 3, 4, 7 and 8, Engler et al. further discloses wherein the fluid is a lubricant; wherein the fluid is a dielectric (col. 8, lines 15-20).

4. Claims 9, 10, 12-18 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheridan et al. (U.S. Pat. 5,982,346 A).

a) With respect to claim 9, Sheridan et al. disclose a fabrication of a twisting ball display having two or more different kinds of balls in Figure 15c comprising of steps for holding the mirrored balls (item 1545) somewhat rigidly captive in place in the sheet

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(item 1542) during and at the completion of its formation; and introducing the infiltrating fluid (item 1541) to expand the sheet and form small fluid-filled annular cavities surrounding the rotatable mirrored balls (1545)(Figure 15c).

b) With respect to claim 10, Sheridan et al. further discloses wherein at least one eliminatable tray (item 1538) holds the mirrored balls in place in the sheet during its formation.

c) With respect to claims 12 and 13, Sheridan et al. further discloses wherein at least one of the fluids is optically transmissive; wherein at least one of the fluids is a dielectric (col. 9, line 56).

d) With respect to claims 14-18, Sheridan et al. further discloses wherein the index of refraction of at least one of the fluids approximately matches that of the sheet (610); wherein the density of at least one of the fluid approximately matches that of the mirrored balls; wherein at least one of the fluid is lubricated; wherein at least one of the infiltrating fluids is vaporously removed; wherein the ratio of the volume of the material of the sheet (610) to the volume of the mirrored balls is greater than a factor of 2 (col.9, lines 35-39).

d) With respect to claims 20-23, Sheridan et al. further discloses wherein a random dispersion of rotatable mirrored balls (item 1545) are encapsulated in the sheet; wherein the mirrored balls (1545) are precoated prior to being embedded in the sheet (610); herein the mirrored balls are asymmetrically closer to the top of the sheet (610) than to the bottom; wherein the sheet is constructed of laminar film.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engler et al. (U.S. Pat. 6,521,145 B1), as applied to claims 1 above, in view of Jacobson (U.S. Patent 6,120,588 A).

Engler et al. discloses a reflective particle display film and method of manufacture in Figure 1B, 1C, 4A, 4B and 4C comprising of an array of rotatable mirrored balls (reflective particle 418) embedded in the sheet; the array disposed behind an optically transmissive surface (item 404, the electrode layers 404 is preferably transparent); and each of the mirrored balls (418) encapsulated in a surrounding medium of an optically transmissive fluid (item 416).

However, Engler et al. does not disclose the sheet is a part of solar cell. Within the same field of endeavor, Jacobson discloses an electronically addressable microencapsulated ink and display thereof in Fig. 10D with solar cell concentrator.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the array display apparatus such as disclosed by Engler et al., with sheet is a solar concentrator such as discloses by Jacobson, for purpose of collecting solar.

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6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheridan et al. (U.S. Pat. 5,982,346 A), as applied to claim 9 above, in view of Engler et al. (U.S. Pat. 6,521,145 B1).

Sheridon et al. disclose a fabrication of a twisting ball display having two or more different kinds of balls in Figure 15c comprising of steps for holding the mirrored balls (item 1545) somewhat rigidly captive in place in the sheet (item 1542) during and at the completion of its formation; and introducing the infiltrating fluid (item 1541) to expand the sheet and form small fluid-filled annular cavities surrounding the rotatable mirrored balls (1545) (Figure 15c).

However, Sheridan et al. does not disclose at least one monolayer of the rotatable mirrored balls encapsulated in the sheet. Within the same field of endeavor, Engler et al. discloses an reflective particle display film and method of manufacture in which one monolayer of the rotatable mirrored balls encapsulated in the sheet.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the array display apparatus such as disclosed by Sheridan et al., with at least one monolayer of the rotatable mirrored balls encapsulated in the sheet such as discloses by Engler et al., for purpose of simplifying structure device.

Allowable Subject Matter

8. Claims 11 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The reason for the indication of allowable subject matter is that (claim 11) at least one pillar support said sheet to enhance fluid access during the sheet infiltration and expansion process; (claim 24) zeolites are in the fluid bath to help keep it dean and deionized disclosed in the claims is not found in the prior art.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (571) 272 - 2328. The fax number for this Group is (703) 872-9306.

tt

October 12, 2004


Hung Xuan Dang
Primary Examiner